Warning! Read this before using the equipment !

Always read and follow the instructions described in this manual and in the LabStrip U11Plus user manual.
Never use other devices, power adapter, or accessories than shipped or supplied by the manufacturer or distributor.
Never store, install or use the devices, supplies and test strips on other way than described in their user manual.
Never rely exclusively on the test results provided by the DocuReader when set up a diagnose, instead apply all available diagnostic method as well. If you have any doubt if the measured value being correct, perform a test in Check mode. See chapter Calibration and Checking function.

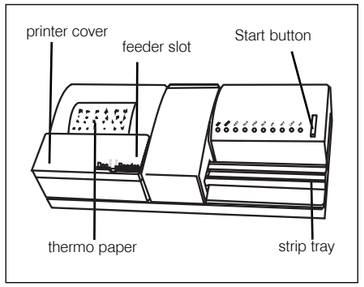
Medical laboratory staff members should already meet the fallowing professional requirements before using the equipment

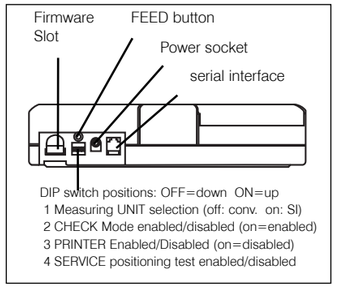
- **Knowledgeable and experienced in general laboratory testing practices**
- **Being introduced the information described in this guide**

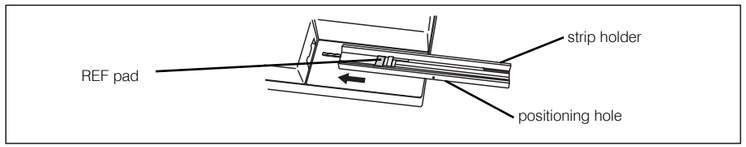
Introduction

IVD CE

DocUReader compact size urine analyzer, working exclusively with the **LabStripU11Plus** multi-reagent strip, and providing semi-quantitative reagent concentration values in urine.







Package content

1 pc **DocUReader** instrument
1 pc black strip tray for **LabStripU11Plus** test strip
1 pc external power adapter
1 roll of thermo printer paper
2 pc gray Check strip

DocUReader User's Manual

Installation

1. Insert the (**LabStripU11Plus**) tray and align its right edge to the outer right end of the instrument house.
2. Connect the DC-side power cord connector of the AC/DC adapter to the socket (marked with "power socket") on the **DocUReader** rare side.
3. Plug the AC cord of the adapter into the wall socket. A short initialization phase starts, while the strip tray starts to move for self-check and a message is printed out (if paper is loaded).

Inserting new printer paper

- Open the printer cover.
- Pressing the FEED button remove the paper left (if necessary). Press FEED button again to stop the feeder function.
- Insert the prepared (cut) end of the new roll of paper into the feeder slit.
- Forward the paper by pressing FEED button.
- Lead the paper through the feeder slot and close the printer cover.

Steps of the routine operation

1. Place the test tubes of prepared urine samples next to the **DocUReader** and take a vial of test strips. Open the vial by removing its cap, take a strip out by holding its handle, and replace the cap.
2. Press the device *Start* button.
3. Dip the strip into the tube containing urine-sample next in line, then remove it. Let the excess urine drop back into the tube, still remaining excess urine can be removed by drawing the edges of the strip on a piece of tissue paper.
4. Place the strip upward with PADs on the tray. Make sure that the strip front edge bumps against the end of the tray i.e. the strip is correctly placed. The reagent strip must be tested in 50 seconds after being moisturized. The time passing by is indicated by the activation of LED row on the top of the instrument. Green LED indicators are activated successively in every 5 seconds - but the last three indicators will be lighted up in red color as a warning sign for the user that the incubation time is over soon.
5. From this phase, the process of the test and evaluation will be performed automatically by the **DocUReader** control program, it determines all PADs reagents concentrations one by one.
6. Wait while the **DocUReader** ejects the strip tray and the test results are printed out. **LEDs colors are lighted up according to the result values: green color means normal-, red color means pathological result.** Each LED represents a reagent, identified with its three-letter code printed next to the indicator. (In case of **LabStrip U11Plus** the result of the Ascorbic Acid iis not indicated among LEDs.) Remove and discard the used strip from the tray.
7. Finishing your daily routine work, always clean the strip tray under running water.

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Error messages and Troubleshooting

In case of malfunction, error messages will be printed out by the **DocUReader.**

Sign	Name of the sign	What does the sign mean
● E-1	**REF pad error**	REF pad values out of range
● E-2	**Tray positioning err.**	Missing tray, hole is not transparent, or friction drive lost
● E-3	**Dry strip**	Strip not moisturized correctly
● E-4	**Measurement error**	Wrong strip type or incorrect strip positioning
● E-5	**Firmware error**	Firmware key is missing or damaged
	The first indicator LED is blinking	Instrument hardware error, contact your distributor

Serial Interface

The **DocUReader** can be connected to a host PC through its serial interface. Please, contact your distributor for details.

Maintenance

Cleaning up the strip tray

- Remove the tray by drawing it all the way right.
- Wash it up with soap water or isopropyl alcohol. Also make sure that the positioning hole is transparent. Pay special attention while cleaning the grey REF pad, try to avoid in any way of scratching its surface.
- Wipe it with a soft cotton cloth. Make sure to have it dried completely.
- Replace the tray and align its right edge to the right edge of the device house.

Calibration and Checking functions

The calibration function is executed automatically during every strip reading, with the help of the REF pad to be found on the strip tray.
DocUReader built in program has a so called "Check mode" control option, in order to let the user check the optical reading system with the help of **gray check strip holder** (shipped together with the device).
The Check mode can be selected by enabling DIP switch no. 2. Then insert the Gray Check Strip into the **DocUReader.** Press the Start button.The device executes the checking function, then prints out the results.
If results are out of the ranges indicated on the label fixed on the inner side of the printer cover, first clean and check the REF pad of the strip tray if it is contaminated or damaged. If it seems to be OK, have the device performed a checking function again. If results are still not within the ranges, the DocuReader needs professional troubleshooting and/or repair service, so contact your local distributor.

DIP switch settings

The reader can be controlled manually by setting of DIP switches on the back side. There are four switches with different functions. When the toggle is in upper position, the switch is enabled, otherwise is disabled. The functions from leftmost (seeing from back).

Measurement system

1. Unit selection in print out.
ON - SI units enabled
OFF - conventional units enabled

2. Check mode selection. The check mode is to test the instrument. Selecting this mode you should insert the strip tray only. The instrument measures the reflectance value of the grey calibration pad and prints out the remission values. The values should be within the ranges indicated on the inner side of the printer coves.
ON - check mode enabled
OFF - check mode disabled

3. Printer enabled/disabled. When printer is disabled, the results are displayed only by the indicator LEDs. Since the instrument has no data memory in this mode it is not possible to print the results later. It is suggested to use this feature only in case of on-line computer connection and data evaluation.
ON - printer disabled
OFF - printer enabled

4. To print out the remission values. In this mode besides the results the measured reflectance values are printed too.
ON - remission value print out enabled
OFF - remission value print out disabled

Technical features

type:	reflectance photometer	**throughput:**	~ 40 strips/hour
size:	250 x 120 x 70 mm	**wavelengths:**	430, 555, 650 nm
weight:	820 g	**power adapter:**	7,5 V DC / 1,25 A
interface:	RS232 ser. port (unidir., max. 2400 Baud)		
printer:	internal thermo printer (24 char/row)	**op. temperature**	15 - 35°C
		relative humidity	<80°C
		storage/shipping	-10 - 50°C

Parts and accessories:

Please indicate the name, the Cat.No. and the quantity if ordering.

Thermal printer paper (1 roll)	612EPL19
Serial interface cable	AMT-4616-1
Check tray for function test	UDR-4404-1
Gray plastic strip for function test	UMC-1117-1
Strip tray for **LabStripU11Plus**	UMC-4411-2
External power adapter	1ASA7V1A
User manual	UDR-9201-4

LabStripU11Plus			+	++	+++	++++		
Bilirubin	Conv.	neg	1	2	4			mg/dl
Bil	SI	neg	17	35	70			µmol/l
Urobilinogen	Conv.	norm	2	4	8	12		mg/dl
Ubg	SI	norm	35	70	140	200		µmol/l
Ketone	Conv.	neg	15	50	150			mg/dl
Ket	SI	neg	1.5	5	15			mmol/l
Asc. Acid	Conv.	neg	20	40				mg/dl
Asc	SI	neg	20	40				mg/dl
Glucose	Conv.	norm	50	150	500	1000		mg/dl
Glu	SI	norm	2,8	8,5	28	56		mmol/l
Protein	Conv.	neg	30	100	500			mg/dl
Pro	SI	neg	0.3	1	5			g/l
Blood	Conv.	neg	10	50	300			Ery/µl
pH	Conv./SI	5	6	7	8	9		
Nitrite	Conv./SI	neg	pos					
Leukocytes	Conv./SI	neg	25	75	500			Leu/µl
Spec. Grav.	Conv./SI	1.000	1.005	1.010	1.015	1.020	1.025	1.030

ver.: 3.1

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IVD — In Vitro Diagnostic Device for professional use

Manufacturer

Warning!

Consult user manual

Product certified in EC